

Application of Danny L. BEASLEY, et al.
Serial No. 09/683,582
Filed: January 22, 2002
Reply to Office Action of October 11, 2005

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A switching system comprising:
computer-side connectors including plural computer-side user input device connectors and plural computer-side video connectors for simultaneously physically connecting to independent, dedicated cables of respective user-input device inputs and analog video outputs of plural computers;
a first set of user-side connectors including a first user-side user-input device connector and a first user-side video connector for physically connecting to independent, dedicated cables of a first user-input device and an analog video input of a first monitor;
a first analog video receiving circuit interposed between the computer-side connectors and the first set of user-side connectors for receiving analog video signals from one of the plural computers through at least one of the computer-side connectors, and
a first analog video processing circuit, interposed between the computer-side connectors and the first set of user-side connectors, for selecting, for at least one sub-region of an image to be displayed on the first monitor, at least one of (1) a portion of the analog video signals received by the first analog video receiving circuit and (2) internally generated analog video signals, to form an output analog video signal that is output to the first monitor via the first user-side video connector.
2. (Previously Presented) The switching system as claimed in claim 1, wherein the first analog video receiving circuit further comprises a synchronization signal detecting circuit for detecting one of a horizontal- and a vertical-synchronization signal

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corresponding to the analog video signals from the at least one of the plural computers through the at least one of the computer-side connectors.

3. (Previously Presented) The switching system as claimed in claim 1, wherein the first user-input device comprises a computer mouse.

4. (Previously Presented) The switching system as claimed in claim 1, wherein the first user-input device comprises a keyboard.

5. (Previously Presented) The switching system as claimed in claim 1, wherein the first analog video processing circuit comprises a multiplexer for multiplexing (1) the portion of the analog video signals received by the first analog video receiving circuit and (2) internally generated analog video signals without requiring a frame buffer.

6. (Previously Presented) The switching system as claimed in claim 1, further comprising a user-input device translator, disposed between at least one of the plural computer-side user-input device connectors and the first user-side user-input device connector, for translating information from the first user-input device in a first format to a second format used by at least one of the plural computers.

7. (Previously Presented) The switching system as claimed in claim 1, wherein the first analog video receiving circuit receives separate analog red, green and blue signals.

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8. (Previously Presented) The switching system as claimed in claim 2, wherein the first analog video receiving circuit comprises a receiving circuit for receiving real-time, analog video signals.

9. (Previously Presented) The switching system as claimed in claim 2, wherein the first analog video receiving circuit comprises a receiving circuit for receiving real-time, analog video signals including the at least one of the horizontal- and a vertical-synchronization signal superimposed on the real-time, analog video signals.

10. (Previously Presented) The switching system as claimed in claim 8, wherein the first analog video receiving circuit receives separate analog red, green and blue signals.

11. (Previously Presented) The switching system as claimed in claim 9, wherein the first analog video receiving circuit receives separate analog red, green and blue signals.

12. (Previously Presented) The switching system as claimed in claim 1, further comprising:

digital switching circuits; and

analog switching circuits, wherein user-input device information is routed from at least one of the plural computer-side user-input device connectors to the first user-side user-input device connector on the digital switching circuits independent of the analog video signals that are routed from at least one of the computer-side video connectors to the first user-side video connector on the analog switching circuits.

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13. (Previously Presented) The switching system as claimed in claim 1, further comprising computer-side audio connectors for receiving audio signals from audio ports of the plural computers, and

wherein the first set of user-side connectors further comprises a user-side audio connector for receiving the audio signals from one of the computer-side audio connectors.

14. (Previously Presented) The switching system as claimed in claim 1, further comprising:

a second set of user-side connectors including a second user-side user-input device connector and a second user-side video connector for physically connecting to independent, dedicated cables of a second user-input device and an analog video input of a second monitor,

a second analog video receiving circuit for receiving analog video signals from one of the plural computers through the computer-side connectors, and

a second analog video processing circuit for selecting, for at least one sub-region of an image to be displayed on the second monitor, at least one of (1) a portion of the analog video signals received by the second analog video receiving circuit and (2) internally generated analog video signals, to form an output analog video signal that is output to the second monitor via the second user-side video connector.

15. (Previously Presented) The switching system as claimed in claim 1, further comprising a user-input device command detector, connected to the first user-side user-input device connector, for detecting when configured to detect a first command by

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which the first user-input device requests that the analog video signals of one of the plural computers be replaced by analog video signals of another of the plural computers and configured to send commands other than the first command from the first user-input device to one of the plural computers.

16. (Previously Presented) The switching system as claimed in claim 1, further comprising a user-input device command detector, connected to the first user-side user-input device connector, for detecting when configured to detect a first command by which the first user-input device requests that the analog video signals of one of the plural computers be replaced by analog video signals of another of the plural computers in response to the internally generated video signal that is output to the first monitor via the first user-side video connector, and said user-input device command detector configured to send commands other than the first command from the first user-input device to one of the plural computers.

17. (Previously Presented) The switching system as claimed in claim 1, wherein a first computer-side user-input device connector and a first computer-side video connector of the plural computer-side connectors are contained within a first computer-side housing, and a second computer-side user-input device connector and a second computer-side video connector of the plural computer-side connectors are contained within a second computer-side housing.

18. (Previously Presented) The switching system as claimed in claim 17, wherein the first and second computer-side housings comprise first and second pod means, respectively.

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19. (Previously Presented) The switching system as claimed in claim 1, wherein the first analog video receiving circuit comprises analog video receiving means for receiving analog video signals from one of the plural computers through the computer-side connectors.

20. (Previously Presented) The switching system as claimed in claim 1, wherein the first analog video receiving circuit comprises at least one differential line amplifier.

21. (Previously Presented) The switching system as claimed in claim 1, wherein said at least one of (1) the portion of the analog video signals received by the first analog video receiving circuit and (2) the internally generated analog video signals comprises only (1) the portion of the analog video signals received by the first analog video receiving circuit in a first mode of operation.

22. (Previously Presented) The switching system as claimed in claim 1, wherein said at least one of (1) a portion of the analog video signals received by the first analog video receiving circuit and (2) internally generated analog video signals comprises only (2) the internally generated analog video signals in a second mode of operation.

23. (Previously Presented) The switching system as claimed in claim 1, wherein said at least one of (1) the portion of the analog video signals received by the first analog video receiving circuit and (2) the internally generated analog video signals comprises both (1) the portion of the analog video signals received by the first analog video

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receiving circuit and (2) the internally generated analog video signals in a third mode of operation.

24. (Previously Presented) The switching system as claimed in claim 1, wherein the first analog video processing circuit comprises analog video processing means for selecting, for the at least one sub-region of an image to be displayed on the first monitor, at least one of (1) the portion of the analog video signals received by the first analog video receiving circuit and (2) internally generated analog video signals, to form an output analog signal that is output to the second monitor via the second user-side video connector.

25. (Previously Presented) The switching system as claimed in claim 1, wherein the internally generated analog video signals further comprise at least one of an internally generated horizontal synchronization signal and an internally generated vertical synchronization signal.

26. (Previously Presented) The switching system as claimed in claim 1, wherein the internally generated analog video signals comprise a menu.

27. (Previously Presented) A system for connecting a workstation of the type that includes a user-input device and a video monitor to plural remote computer systems, comprising:

a first signal conditioning device coupled to the workstation user-input device for receiving a first set of electronic signals produced by the user-input device;

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a first communication link coupled to the first signal conditioning device for carrying information corresponding to the received first set of electronic signals;

a crosspoint switch including a number of outputs, said crosspoint switch transferring information corresponding to the received first set of electronic signals from the first communication link to at least one of the outputs;

a plurality of second communication links coupled to the outputs of the crosspoint switch;

a plurality of second signal conditioning devices coupled to the remote computer systems, at least one of the second signal conditioning devices for receiving information corresponding to the received first set of electronic signals transmitted on one of the plurality of second communication links and for supplying the information corresponding to the received first set of electronic signals to a user-input device input of a corresponding remote computer, the plurality of second signal conditioning devices receiving analog video signals produced by the remote computer systems and transmitting the analog video signals to the crosspoint switch; and

an analog video link for coupling the crosspoint switch to a computer monitor associated with the user-input device, wherein the first signal conditioning device further receives a second set of electronic signals, produced by the user-input device, via the first communication link for controlling the crosspoint switch to select the analog video signals of one of the remote computer systems for display on the computer monitor.

28. (Canceled).

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29. (Previously Presented) A system for connecting a workstation of the type that includes a user-input device and a video monitor to plural remote computer systems, comprising:

- a first signal conditioning device coupled to the workstation user-input device for receiving a first set of electronic signals produced by the user-input device;

- a first communication link coupled to the first signal conditioning device for carrying information corresponding to the received first set of electronic signals;

- a crosspoint switch including a number of outputs, said crosspoint switch transferring information corresponding to the received first set of electronic signals from the first communication link to at least one of the outputs;

- a plurality of second communication links coupled to the outputs of the crosspoint switch; and

- a plurality of second signal conditioning devices coupled to the remote computer systems, at least one of the second signal conditioning devices for receiving information corresponding to the received first set of electronic signals transmitted on one of the plurality of second communication links and for supplying the information corresponding to the received first set of electronic signals to a user-input device input of a corresponding remote computer, the plurality of second signal conditioning devices receiving analog video signals produced by the remote computer systems and transmitting the analog video signals to the crosspoint switch;

- wherein the first signal conditioning device further receives a second set of electronic signals, produced by the user-input device, via the first communication link for controlling the crosspoint switch to select one of the remote computer systems to receive information corresponding to a third set of electronic signals from the user-input device.

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30. (Previously Presented) The system of claim 27, wherein the analog video signals produced by the remote computer systems include red, green and blue video signals.

31. (Previously Presented) The system of claim 30, wherein the analog video signals further include horizontal and vertical synchronization signals.

32. (Previously Presented) The system of claim 31, wherein each of the second signal conditioning devices further comprises an encoder circuit that encodes the horizontal and vertical synchronizations signal onto at least one of the red, green and blue video signals before the red, green and blue video signals are transmitted to the crosspoint switch.

33. (Previously Presented) The system of claim 32, wherein the analog video signals produced by the remote computer systems further include a mode signal that indicates a polarity of the horizontal and vertical synchronization signals, and wherein the encoder circuit encodes the mode signal onto at least one of the red, green and blue video signals before the red, green and blue video signals are transmitted to the crosspoint switch.

34. (Previously Presented) The system of claim 31, wherein the first signal conditioning device includes a decoder circuit for removing the horizontal and vertical synchronization signals from the at least one of the red, green and blue video signals.

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35. (Previously Presented) The system of claim 33, wherein the first signal conditioning device includes a decoder circuit for removing the mode signal from the at least one of the red, green and blue video signals.

36. (Previously Presented) The system of claim 35, wherein the decoder circuit includes a circuit for adjusting a polarity for the horizontal and vertical synchronization signals based on the decoded mode signal.

37. (Previously Presented) The system of claim 35, wherein the first signal conditioning device further comprises an onscreen programming circuit, the onscreen programming circuit producing video signals that are displayed on at least a portion of the video monitor.

38. (Previously Presented) The system of claim 27, wherein the user-input device comprises a keyboard.

39. (Previously Presented) The system of claim 27, wherein the user-input device comprises a mouse.

40. (Previously Presented) The system of claim 27, wherein the user-input device comprises a keyboard and the workstation system further comprises a mouse, and wherein the first set of electronic signals includes both keyboard data and mouse data.

41. (Previously Presented) The system of claim 37, wherein the onscreen programming circuit comprises onscreen programming means.

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42. (Previously Presented) The system of claim 37, wherein the onscreen programming circuit produces a menu on the at least a portion of the video monitor.

43. (Canceled)

44. (Canceled)

45. (New) The system of claim 29, wherein the first signal conditioning device further comprises an onscreen programming circuit, the onscreen programming circuit producing video signals that are displayed on at least a portion of the video monitor.